

Applicant: Veli Käsmä et al.
Application No.: 10/507,451
Response to Office action dated Aug. 16, 2005
Amendment filed November 16, 2005

Claim Listing

1-7. (cancelled)

8. (currently amended) A method of coated paper manufacturing involving ~~[[for]]~~ dry coating a surface of a continuous web of paper or paperboard, the method comprising the steps of:

moving the continuous paper or paperboard web having a first surface defining a first side and a second surface defining a second side, between a first electrode at a first potential located on the first side and spaced from the first surface and a second electrode at a second opposite potential, located on the second side and spaced from the second surface;

spraying applying a dry coating powder of 10.1-99.5 wt-% (dry weight) of inorganic material and 0.5 - 89.9 wt-% (dry weight) of a polymeric binder material on to the first surface of the paper or paperboard web to form a first coated surface, and on to the second surface of the paper or paperboard web to form a second coated surface, forming both the first and the second coated surfaces essentially simultaneously by utilizing the difference in the electric potential between the first potential and the second opposite potential; and

finishing the first coated surface and the second surface by conveying the coated paper or paperboard web through a nip formed between two heated members.

9. (previously presented) The method of claim 8, wherein the two heated members are two heated rolls.

10. (currently amended) The method of claim 9, wherein the two heated rolls are ~~[[hard]]~~ metal rolls.

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11. (currently amended) The method of claim 10, wherein the two heated rolls are [[hard]] metal rolls having a surface roughness of less than 0.1 μm .

12. (previously presented) The method of claim 9, wherein the two heated rolls have a temperature of 80–350° C.

13. (previously presented) The method of claim 8, wherein the first electrode and the second electrode are corona charging electrodes.

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14. (currently amended) A method ~~[[for]]~~ of coated paper manufacturing for dry coating a surface of a continuous web of paper or paperboard ~~coating a surface of a continuous web, the method~~ comprising the steps of:

moving the continuous web of paper or paperboard having a first surface defining a first side and a second surface defining a second side, between a first electrode at a first potential located on the first side and spaced from the first surface and a second electrode at a second opposite potential, located on the second side and spaced from the second surface;

spraying ~~applying~~ a coating powder on to the first surface of the web of paper or paperboard to form a first coated surface, and on to the second surface of the web of paper or paperboard to form a second coated surface, forming both the first and the second coated surfaces essentially simultaneously by utilizing the difference in the electric potential between the first potential and the second opposite potential; and

finishing the first coated surface and the second surface by conveying the coated web of paper or paperboard through a nip formed between two heated members;

wherein the first electrode and the second electrode are corona charging electrodes;
and

wherein the corona charging electrodes are wire-shaped electrodes which are positioned parallel to the web.

15. (previously presented) The method of claim 8, wherein the dry coating powder is pre-charged.

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16. (previously presented) The method of claim 8, wherein the dry coating powder is applied on the web by supplying it in an electric field created by the first electrode and allowing an electric field created by the second electrode to draw particles of the dry coating powder on to the web.

17. (previously presented) The method of claim 8, wherein the dry coating powder is 80–95 wt.-% inorganic material.

18. (previously presented) The method of claim 8, wherein the dry coating powder is 80–95 wt.-% inorganic material, and 20–5 wt.-% polymeric binder material.